

REMARKS

The present Amendment amends claims 2, 7-10, 12 and 14 cancels claim 1, leaves claims 3-6, 11 and 13 unchanged and adds new claims 15-23. Therefore, the present application has pending claims 2-23.

Proposed Drawing Correction with respect to Fig. 2 is being submitted on even date herewith. Specifically, the wrong reference number “232” is listed in the “Layer 2 processor”. The correction reference number should be “22” as now corrected in the “Layer 2 processor”. Entry of the Proposed Drawing Correction is respectfully requested.

Claims 1-3 and 7-14 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Krishnamurthi (U.S. Patent No. 7,164,698) in view of Paatela (U.S. Patent No. 6,944,168); and claims 4-6 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Krishnamurthi in view of Paatela and further in view of Yoon (U.S. Patent No. 7,006,504). As indicated above, claim 1 was canceled. Therefore, the above 35 USC §103(a) rejection with respect to claim 1 is rendered moot. Accordingly, reconsideration and withdrawal of this rejection with respect to claim 1 is respectfully requested.

It should be noted that the cancellation of claim 1 was not intended nor should it be considered as an agreement on Applicants part that the features recited in claim 1 are taught or suggested by Krishnamurthi or Paatela whether taken individually or in combination with each other. The cancellation of claim 1 was simply intended to expedite prosecution of the present application.

The above 35 USC §103(a) rejections with respect to the remaining claims 2-14 is traversed for the following reasons. Applicants submit that the

features of the present invention as now recited in claims 2-14 are not taught or suggested by Krishnamurthi, Paatela and Yoon whether taken individually or in combination with each other as suggested by the Examiner. Therefore, Applicants respectfully request the Examiner to reconsider and withdraw these rejections.

Amendments were made to the claims to more clearly describe features of the present invention as recited in the claims. Particularly, amendments were made to the claims to recite that the present invention is directed to packet communication device which is capable of easily performing required functions with respect incoming packets.

According to the present invention the packet communication device includes a plurality of line interfaces capable of reception or transmission of a packet, a plurality of ports to which the line interfaces are connected to which at least one functional processor to be used to perform functional processing on an incoming packet received by any of the line interfaces can be connected as needed, a function item judgment unit for judging a function item to be required for the incoming packet, a forwarding information generator for determining a forwarding port for the incoming packet in accordance with the function item obtained from judging by function item judgment unit and imparting to the incoming packet forwarding information for designating the forwarding packet and a forwarding pass switching unit for switching a forwarding path when forwarding the incoming packet among the ports based on the forwarding information.

Further, according to the present invention when the function item judgment unit has judged that a plurality of functional processings are

required for the incoming packet, the plurality of forwarding information corresponding to functional processors capable of executing the required functional processings is imparted to the incoming packet at the file forwarding information generator in order to forward the incoming packet successively to a plurality of ports to which the functional processors capable of executing the required functional processings are connected respectively. These features of the present invention are discussed, for example, in the present application beginning on page 12, line 19 through page 13, line 3.

The above described features of the present invention now more clearly recited in the claims enables flexible addition of functions by successively connecting the functional processors having different functions to the plurality of ports of the switch. In addition according to the present invention, in the line interface, there is provided a packet communication device capable of adding functions for making a setting easy when functions are added by imparting the plural forwarding information along with the incoming packet. Attention is directed to the description of the present application beginning on page 7, line 4 through page 8, line 7.

The above described features of the present invention are not taught or suggested by any of the references of record whether taken individually or in combination with each other. Particularly, the above described features of the present invention of are not taught or suggested by Krishnamurthi, Paatela or Yoon whether taken individually or in combination with each other as suggested by the Examiner.

Krishnamurthi discloses an example of a configuration of a line interface where the data from a high-speed input line is processed using low speed parallel processing.

However, Krishnamurthi does not teach or suggest module configurations which have different functions that are dedicated to functional processing as in the present invention. Moreover, Krishnamurthi does not teach or suggest a processing method for utilizing those modules (for example, method of transmitting data packets in a device) as in the present invention. Particularly, Krishnamurthi does not teach or suggest that when the function item judgment unit has judged that a plurality of functional processings are required for the incoming packet that the packet forward corresponding to the functional processors capable of executing the required functional processings is imparted to the incoming packet at the forwarding information generator in order to forward the incoming packets successively to the ports to which the functional processors capable of executing the required functional processings are connected respectively as in the present invention as recited in the claims.

Paatela discloses line interface processing for analyzing the contents of multi-protocol packets inputted to the line interface, for performing tagging for traffic processing for searching a destination of an output line and for quality of service. The processing is performed using only the line interface.

However, Paatela does not teach or suggest module configurations which have different functions that are dedicated to functional processing as in the present invention. Moreover, Paatela does not teach or suggest a processing method for utilizing those modules (for example, method of

transmitting data packets in a device) as in the present invention. Particularly, Paatela does not teach or suggest that when the function item judgment unit has judged that a plurality of functional processings are required for the incoming packet that the packet forward corresponding to the functional processors capable of executing the required functional processings is imparted to the incoming packet at the forwarding information generator in order to forward the incoming packets successively to the ports to which the functional processors capable of executing the required functional processings are connected respectively as in the present invention as recited in the claims.

Paatela discloses that searching the outputting line based on the destination address by analyzing the embedded header information of each protocol of the multiprotocol packets inputted to the line interface (column 21, lines 41-49) and outputting the tagged packets with the embedded header information of each protocol (column 22, lines 43-53).

However, the above described teachings of Paatela are not equivalent to the features of the present invention as recited in the claims. The features of the present invention are a structure in which the functional processors having different functions and are each connected to plural ports of the switch and in which the input packets are transferred to the plural ports successively based the requested functional processings as indicated in the incoming packet. The structure as taught by Paatela does not perform the flexible addition of functions as described above according to the present invention as recited in the claims.

Yoon discloses a method of establishing or terminating a virtual channel (VC) merging connection.

However, Yoon does not teach or suggest the concept of a packet transmission in a device for achieving functional processing as required by claims 4, 5 and 6 of the present application. More specifically, Yoon does not teach or suggest a configuration in which the used forwarding information (header information) is deleted every time the packets are transmitted in the device as in the present invention. Particularly, Yoon does not teach or suggest that when the function item judgment unit has judged that a plurality of functional processings are required for the incoming packet that the packet forward corresponding to the functional processors capable of executing the required functional processings is imparted to the incoming packet at the forwarding information generator in order to forward the incoming packets successively to the ports to which the functional processors capable of executing the required functional processings are connected respectively as in the present invention as recited in the claims.

Thus, each of Krishnamurthi, Paatela and Yoon fails to teach or suggest that when function item judgment unit has judged that a plurality of functional processings are required for the incoming packet, the plurality of forwarding information corresponding to functional processors capable of executing the required functional processings is imparted to the incoming at the forwarding information generator in order to forward the incoming packet successively to a plurality of ports to which the functional processors capable of executing the required functional processings are connected respectively as recited in the claims.

Therefore, since each of Krishnamurthi, Paatela and Yoon fails to teach or suggest the features of the present invention as now more clearly recited in the claims, combining these references in the manner suggested by the Examiner in the Office Action does not render obvious the claimed invention. Accordingly, reconsideration and withdrawal of the various rejections under 35 USC §103(a) is respectfully requested.

The remaining references of record have been studied. Applicants submit that they do not supply any of the deficiencies noted above with respect to the references utilized in the rejection of claims 1-14.

As indicated above, the present Amendment adds new claims 15-23. New claims 15-23 depend respectively from claims 7 and 8. Therefore, the same arguments presented above with respect to claims 7 and 8 apply as well to new claims 15-23.

In view of the foregoing amendments and remarks, Applicants submit that claims 2-23 are in condition for allowance. Accordingly, early allowance of the present application based on claims 2-23 is respectfully requested.

To the extent necessary, Applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, or credit any

overpayment of fees, to the deposit account of MATTINGLY, STANGER,
MALUR & BRUNDIDGE, P.C., Deposit Account No. 50-1417
(1213.43382X00).

Respectfully submitted,

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